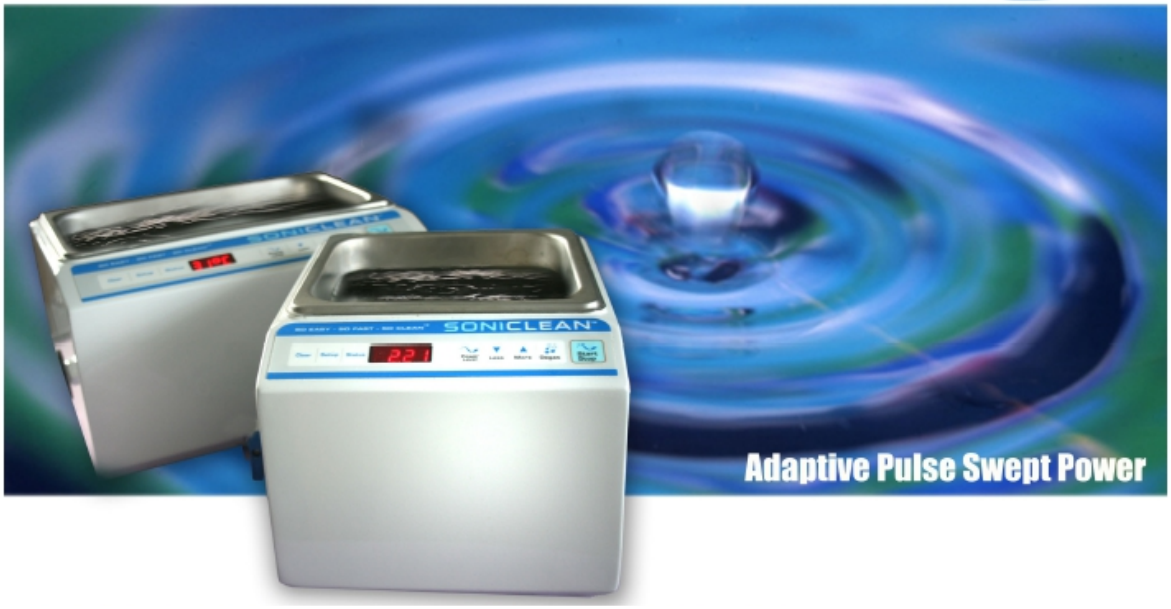
SONICLEAN
SO EASY - SO FAST - SO CLEAN



USER MANUAL

FOR

SONICLEAN DIGITAL BENCHTOP ULTRASONIC CLEANERS

MODELS: 80TD, 120TD, 160TD/HD, 250TD/HD, 500TD/HD, 800TD/HD, 1000TD/HD, 2000TD/HD, 3000TD/HD & 3800TD/HD

For further information visit Soniclean Helpdesk:
http://helpdesk.soniclean.com.au/

Issue date: 190913-1

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PRECAUTION & SAFETY INSTRUCTIONS.

PRECAUTIONS

Membrane keypad
The touch sensitive keypad is waterproof with easy wipe down surface. Do not operate keys with sharp objects. If water enters under the fascia, send the unit to an authorized Soniclean service center for repair.

Aerosols
Do not switch on ultrasonic without the lid to prevent possible dangerous aerosols from the liquid. Keep lid and tank edge dry to reduce aerosol. Models with interlock lid must be enabled to prevent unit operating without the lid.

Ultrasound pressure
It is recommended to cover the tank during the operation. Do not position ears directly over bath. Noise from ultrasonic is rated around or below 85dBA. At high power the unit can generate very high frequency pitch which is harmful to sensitive ears.

Power supply
Check that your mains supply is adequately earthed before plugging in to ensure that the voltage is correctly rated.

Do not attempt to open the unit powered to mains which can cause an electric shock. Opening the unit will void the Warranty, unless authorised by Soniclean. Unit is sealed to International Protection Standard IP66/67.

Insulation tests
Insulation resistance tests can not be performed at 500Vdc due to an internal 275Vdc surge arrestor. Tests should be limited to 250Vdc. Please refer to AS/NZS 3551-2004 “Technical management programs for medical devices”, section “5.3.4 Insulation resistance – test specifications”.

SAFETY INSTRUCTIONS
The ultrasonic vibrations of these cleaners are transferred to the water by means of a ceramic transducer, which is bonded to the underside of the tank. These transducers are brittle and can easily be damaged through incorrect use. However with proper care they can give many years of reliable service. Following these directions will prolong the life of your unit and increase the effectiveness of the cleaner.

DO NOT:

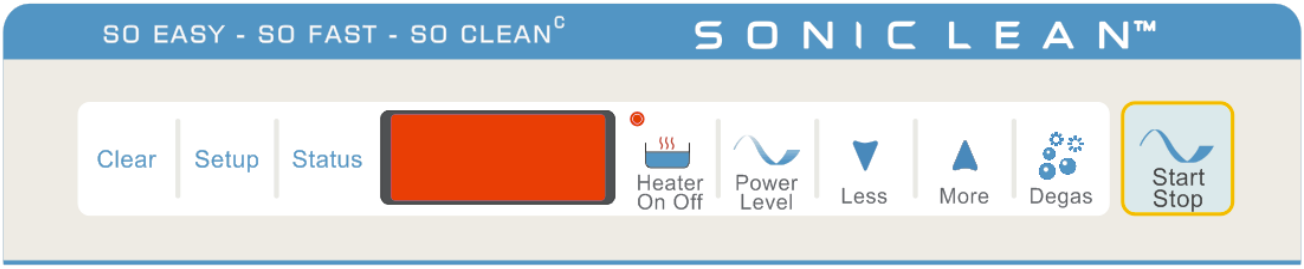
- subject unit to *mechanical* or *thermal* shocks.
- immerse your unit.
- drop or place heavy or sharp objects directly in tank.
- place objects into tank while ultrasonic cleaning is in progress.
- overload tank as this can damage parts and is less efficient in cleaning.
- subject tank to thermal shock, ie sudden temperature changes.
- add hot water to a cold tank, or cold water to a hot tank.
- use external or immersion heater or pour excessively hot or cold liquid into the tank. This will damage your unit. Note: the temperature will rise slightly when the ultrasonics is switched on.
- operate without adequate liquid.
- allow cleaning solutions to become excessively contaminated.
- use dangerous liquids. Soniclean Pty. Ltd. does not accept responsibility for accidents arising from the use of toxic/flammable/corrosive liquids.

DO:

- operate in normal room temperatures around 25C.
- use adequately and correctly earthed mains **electricity supply with correct voltage** to your ultrasonic cleaner. *Check with qualified electrician if in doubt.*
- fill at least 2/3 full or ¾ full on heated models.
- use a basket/tray/rack to prevent contact between objects and the tank.
- ensure all splash marks and spillages are cleaned off the unit immediately

OPERATING YOUR UNIT

CONTROL PANEL



PREPARATION

1 Set the unit on level surface to enable liquid to drain out completely.

2 Check for the correct voltage. (See back label on the unit) Plug in your ultrasonic cleaner and switch on at the power point.

3 Close the drain valve and fill the tank with cold room temperature or tepid water to 2/3 full, or ¾ full for heater models.

BASIC SETTINGS

4 Simply press **Start** or **Degas** keys to commence these cycles. To cancel cycles press **Stop** key.

5 To change the timing cycle press **More** or **Less** keys to increase or decrease cycle time. Factory default is 15 minutes for clean and 5 minutes for degas.

6 Once cycle times are optimized simply press **Start** or **Degas** and display shows the selected optimized time cycles during countdown.

DEGAS

7 Add a specified amount of recommended detergent to the ultrasonic tank. For the best results first start the machine and then sprinkle the detergent along the insides of the tank.

8 Press **Degas** to expel air bubbles from the water. This takes 1-5 minutes, depending on water quality. Degassing is complete when cavitation surface ripples become evident.

9 Adjust time using **More** or **Less** keys if necessary or press **Start**.

10 Adjust down **Power Level** if required. Default is 100% maximum power. These optimized basic settings will be retained so long as the unit is powered on.

11 Leave unit to complete the operation or press **Stop** to cancel.

12 Operate with the lid on where possible.

13 After cleaning, rinse parts using clean running water.

FOR HEATER MODELS

14 Follow steps 1-6 *before* switching on heater.

15 Press **Heater On** to change heater temperature using **More** or **Less** keys to increase or decrease temperatures. Factory default is 50 ^{0}C. Place lid on the unit to prevent heat loss and evaporation. Press **Heater Off** to switch off the heater.

16 The LED display blinks when the liquid reaches the set temperature.

17 Ensure that minimum liquid level is maintained to prevent heater shut down.

18 If the heater shuts down, top up liquid, press **Heater On** again.

ULTRASONIC PERFORMANCE

19 **To ensure your unit is working effectively, a daily aluminum foil test is recommended.**

20 Soniclean recommends – 0.025mm thick aluminum foil. Thicker foil will not work. For consistent results, *use SONIC 1 (ARTG No 141350)* detergent dilution 0.5%-3.0% and fluid temperatures from 22^{0}C – 40^{0}C.

21 Sonic 1 detergent has been specially formulated by Soniclean to give the best results for Soniclean machines. Be aware that certain chemicals or excessive amounts of certain chemicals affect the performance or damage unit. Check with your supplier if in doubt.

22 Soniclean now provides an Ultrasonic Performance Meter (UPM) Model Sonic-200/250 which validates or takes the place of the foil test – Refer to Australian Standard AS2773-2

23 Check Soniclean Web Site www.soniclean.com.au for further information and updates for UPM and Foil Test.

Soniclean's Ultrasonic Performance Meter

Soniclean's detergents

ADVANCED SETTINGS

24 Check to ensure the features and functionalities correspond to software version number.
Press **Status** key and scroll through to display eg software version.

25 Press **Status** key repeatedly to scroll through various settings on the unit. The **Status** key displays information such as tank temperature, clean time, degas time, power level and software version.

26 The **Setup** keys have other functionalities. At present these enable/disable buzzer and lids.

27 Ultrasonics over prolonged operation will increase above preset temperature. Power duty cycle helps maintain preset temperature over prolonged ultrasonic operation. Use **Setup** to scroll to **p**ower duty cycle **P.dc**. Factory default power duty cycle is off. Press **More** key to turn on showing **dc.On** or press **Less** key to **d.OFF** to restore to factory default.

28 To save optimized settings when the unit is powered press **Setup** and scroll through display showing **U.SEt** . Press **More** or **Less** keys to **U.On** confirm saved user setting.

29 User setting can be changed by repeating steps 4 - 6 and automatically saved so long as the unit is powered on.

30 To return to factory setting, simply press **Setup** and scroll through display showing **F.SEt**. Press **More** or **Less** keys to **F.On** to confirm factory setting.

REFERENCE TABLE

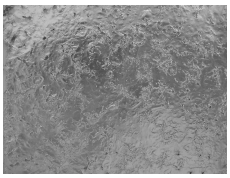
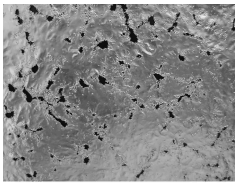
31 The table below is a quick reference to display, key functions and error messages. We encourage users to familiarize with the advanced functionalities of keys in blue text left of display.

Start Stop	
P.On	Power On for ultrasonic cleaning.
End	End of cleaning cycle.
MM.SS	Cleaning time in **MM.SS** where **MM** in minutes and **SS** in seconds. The cleaning time is preceded by degassing cycle.

XX°C	Water temperature updated every 5 sec. **XX**
100.P **80.P** **60.P**	100% Power levels.
Degas	
dGAS	Degas displays every 5 sec.
MM.SS	Cleaning time. The display is in **MM.SS** where **MM** in minutes and **SS** in seconds. Degas cycle is: H,3-M,1-L,1-OFF,1 SEC
Power Level	
100.P **80.P** **60.P**	Press repeatedly to scroll through and select **Power levels** when unit is in standby or operating
Heater On Off	
H.On	**Heater On**. Key valid when heater is enabled. The LED will blink when the set temperature is reached. With out ultrasonics the **H.On** display will flash after one minute to indicate that the heater is on.
H.OFF	**Heater OFF**. Key valid when Heater is disabled.
XX.C	Use **More** or **Less** to set temperature. Max 60 °C. **XX.C** LED lights up when heater is active.
Status	
XX°C	Water temperature updated every 5 seconds.
XX°.C	Heater temperature set. Dot before C indicates heater set temperature.
MM.SS	Cleaning time. The display format is **MM.SS** where **MM** is minutes and **SS** is seconds. Total cleaning time includes degassing time.
100.P, **80.P, 60.P**	Power level set. Display **100.P, 80.P, 60.P.**
XX.ct	Cleaning set time where **XX** is from 1 to 99 minutes.
XX.dG	Degas time set where **XX** is from 1 to 99 minutes.
XX.dc	Duty cycle factory default set is 50% showing **50.dc**. Use **More** or **Less** key to change the values. When activated in **Setup** this functionality will be activated when the bath temperature is close to the set temperature.
Sxxx	Software Version
Setup	
BEEP **b.OFF** **b.On**	Enable or disable audible key press. Press **Less** key to silent operation using **b.OFF** Press **More** key **b.On**.
F.SEt **F.On**	Load factory values. The display shows **F.SEt.** Press **More** or **Less** key to toggle **F.On** The factory values are: Ultrasonic power: 100%. Clean Time: 15.0 minutes. Degas Time: 5.0 minutes.

	Heater Temperature: 50 ^{O}C. Duty cycle disabled. Lid disabled Beep enabled
U.SEt **U.On**	User setup. Use **More** or **Less** key to toggle **U.On**
Lid **L.On** **L.OFF** **Lid.o** **PAUS**	Lid interlock option Use **More** to enable lid interlock Use **Less** to disable lid interlock When lid interlock is enabled and the lid is open. When the lid interlock is enabled and the lid is opened the ultrasonics will pause When lid is replaced press **Start** to continue.
P.dc	Power set to enable or disable Duty cycle. Default value is 50% of 5 sec period. See status key for the Duty cycle set.
d.On	Enable Duty Cycle with **More** key – factory default 50% power.
d.OFF	Disable Duty cycle with **Less** key and ultrasonic is set to continuous 100% duty set operation.
Clear	
0.0	Press **Clear** to Switch off heater Remove error message without starting up ultrasonics. Restore user setting. Reset factory setting. Press **Status** key and scroll through to check status on user or factory setting.
0.0	During **Setup** or **Status** key presses use **Clear** to exit routines
More Less	
Heater On Off	Set Heater On from 0^{O}C to 60^{O}C. First key press displays set temperature. Set temperature with **More** and **Less** key.
Start Stop	Set Cleaning from 1 to 99 minutes. Press **Start** to clean with countdown timer. **More** or **Less** key changes timer to a new value. The next **Start** will continue with the new set time. (Version **S.d 08** 1-60)
Degas	Set **Degas** 1-99 minutes. **More** or **Less** key changes degas time. The next **Degas** will continue with the new set time. (Version **S.d 08** 1-60)
Power Level	
Setup	**More** or **Less** key toggles Enable or OFF states as displayed. Preset **Degas** and Cleaning time using **More** or **Less** key.
Status	**More** or **Less** key is used in most functions. Also see **Status** key description.
Clear	Not applicable.
Degas	Not applicable.
Single press of **More and Less** key will increase or decrease number by 1 in most operations. In the clean time holding longer duration changes **XX.ct** values by 10.	

TROUBLE-SHOOTING GUIDE

Foil test Poor Good  	1. Check power level set – should be set to High 2. Does the unit have recommended amount of detergent? Is the detergent approved by SONICLEAN? 3. Has the unit degassed properly? Whilst in the degas mode look for suspended bubbles in water. There should not be any. 4. Is the water too hot? If so remove some (not all) and replace with cold water. Replenish the detergent to bring to the correct concentration. 5. Is the aluminum foil too thick – should be 0.025mm thickness 6. Is the water too dirty? If so replace with fresh water. Note water quality can vary from day to day and from place to place. Degas again. 7. Remove trays and instruments/part during foil test Note: Good foil test Very fine indentations and holes at shorter test duration Longer foil test causes perforations
If the unit stops while operating. Cause could be thermal cutout.	1. Allow unit to cool down, unplugging/switch off at wall. 2. If bath water is hot, empty out bath. 3. Wait for at least half an hour before switching on the unit again. 4. If unit still does not work, contact your supplier or SONICLEAN
NOISE - “screeching”	1. If unit makes a“screeching” noise, switch Off and try letting unit sit for a few minutes to degas again.

Error messages

t.OL	Water over temperature when unit is above max 70 ºC and the unit will cut out, allow unit to cool down and press **Start** to continue.
P.OL	Ultrasonic power overload or over current or electronics over temperature, allow unit to cool down and press **Start** to continue.
Lid.o	When Lid is enabled and lid is open.
PAUS	When the lid interlock is enabled and the lid is opened the ultrasonics will pause When lid is replaced press **Start** to continue.
LEAG.	Moisture detected inside the unit from by leakage or condensation, the unit will cut out. This error message may be reset with any key press.

CUSTOMER WARRANTY RECORDS

WARRANTY (Customer Records)

For goods purchased in Australia after 1 January 2012:
Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The benefits under our warranty described below are in addition to other rights and remedies under a law in relation to the goods.

Our Soniclean Ultrasonic Cleaner is guaranteed for 12 + 12 months from the date of purchase. The additional 12 months is valid when the machine is registered online within 30 days of purchase date.

As a Medical Device, it is essential your machine is validated and calibrated at least once a year to meet the cleaning performance, subject to mandatory compliance to AS2773-2, AS4187, HTM 01-05 and HTM2030.
See http://www.soniclean.com.au/contact-us/services

We undertake to repair or exchange FREE OF CHARGE any part found to be damaged due to a manufacturing fault. This warranty is not transferable and does not cover damage caused by misuse, neglect, failure to observe operating instruction, failure to keep the unit clean, accident, use of incorrect power supply or attempts to repair by unauthorised personnel.

The ultrasonic bath/tank is not covered against chemical and/or cavitation/ultrasonic erosion. Damage to the transducer caused by excess thermal shock or by other mechanical stresses or attempts to switch on the unit without water/liquid is also not covered by this warranty.

The purchaser agrees to undertake the cost and responsibility of packing and dispatch for safe and timely transportation of the unit to the manufacturer via the premises of the distributor or authorised sales agent.

IMPORTANT: Please retain purchase invoice or receipt for verification if required by the manufacturer.

Purchaser Contact Details:

Email:

Purchased from:

Date of Purchase: Model: Serial No:

Notes: Personal information submitted to us will be treated with the strictest confidence and in accordance to our privacy policy.

MANUFACTURER WARRANTY RECORDS

WARRANTY (Manufacturer Records)
Return to Manufacturer

For goods purchased in Australia after 1 January 2012:
Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The benefits under our warranty described below are in addition to other rights and remedies under a law in relation to the goods.

Our Soniclean Ultrasonic Cleaner is guaranteed for 12 + 12 months from the date of purchase. The additional 12 months is valid when the machine is registered within 6 months of purchase.

As a Medical Device, it is essential your machine is re-validated and re-calibrated at least once a year to meet the cleaning performance, subject to mandatory compliance to AS2773-2, AS4187, HTM 10-05 and HTM2030.
See http://www.soniclean.com.au/contact-us/services

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CONTACT INFORMATION

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